



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0052; Product Identifier 2016-SW-081-AD]

RIN 2120-AA64

Airworthiness Directives; Bell Helicopter Textron Inc. Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede airworthiness directive (AD) 2015-04-04 for Bell Helicopter Textron Inc. (Bell) Model 412 and 412EP helicopters. AD 2015-04-04 requires revising the Rotorcraft Flight Manual (RFM) and installing a placard to limit flights to visual flight rules (VFR) and prohibiting night operations because of failing inverters. This proposed AD would require replacing the inverters with a new inverter. The actions in this proposed AD are intended to correct an unsafe condition on these products.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 days AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.
- Fax: 202-493-2251.

- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.

- Hand Delivery: Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0052; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the economic evaluation, any comments received and other information. The street address for Docket Operations (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed rule, contact Bell Helicopter Textron, Inc., P.O. Box 482, Fort Worth, TX 76101; telephone (817) 280-3391; fax (817) 280-6466; or at <http://www.bellcustomer.com/files/>. You may review service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177.

FOR FURTHER INFORMATION CONTACT: Tim Beauregard, Aviation Safety Engineer, DSCO Branch, AIR-7J0, FAA, 10101 Hillwood Pkwy, Fort Worth, TX 76177; telephone (817) 222-4357; email timothy.beauregard@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

Discussion

We issued AD 2015-04-04, Amendment 39-18106 (80 FR 9594, February 24, 2015), for Bell Model 412 and 412EP helicopters with an inverter part number (P/N) 412-375-079-101 or 412-375-079-103 with a serial number 29145 or higher. AD 2015-04-04 was prompted by numerous failures of inverters. The failure of one inverter can result in smoke in the cockpit, making landing at night and during instrument meteorological conditions difficult. If two inverters fail, then the pilot will lose primary

flight and navigation displays, autopilot, and alternate current powered engine and transmission indicators.

To address this condition, Bell issued Alert Service Bulletin (ASB) 412-13-156, dated April 25, 2013, which specifies inspecting inverter part number (P/N) 412-375-079-101 and either repairing it or replacing it with inverter P/N 412-375-079-103 to prevent failure. Because the specific cause of the inverter failures had not been verified, and since inverter failures continued after Bell issued the ASB, we determined the actions specified in the ASB did not correct the unsafe condition. Therefore, AD 2015-04-04 requires revising the RFM and installing a placard in full view of the pilot to limit flights to VFR only and prohibit night operations.

Actions Since AD 2015-04-04 Was Issued

Since we issued AD 2015-04-04 , Bell determined the root causes of the failures were an external connector that caused a short circuit inside inverter P/N 412-375-079-101 and components chafing because of variations in the assembly process and packaging tolerances for inverter P/N 412-375-079-103. Bell introduced an improved inverter, P/N 412-375-079-105, and retrofit kits to replace inverter P/N 412-375-079-101 or 412-375-079-103 on helicopters with serial numbers 33001 or higher. These replacements and repairs correct the unsafe condition by providing 250 voltage amperes (VA) of total power instead of 500 VA, thereby reducing the input power to the inverter.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

Related Service Information

We reviewed Bell Alert Service Bulletin (ASB) 412-15-164, dated March 13, 2015 (ASB 412-15-164), which specifies an alternate means of compliance (AMOC) approved by the FAA for AD 2015-04-04 (80 FR 9594, February 24, 2015). Instead of the flight limitations mandated by AD 2015-04-04, ASB 412-15-164 limits allow operation under instrument flight rules (IFR) and night operations with two pilots.

We also reviewed Bell ASB 412-16-171, dated March 22, 2016 (ASB 412-16-171), which specifies replacing certain serial-numbered inverters P/N 412-375-079-101 and 412-375-079-103 with inverter P/N 412-375-079-105 as a direct replacement or with a retrofit kit. Bell specifies that completing the actions specified by the ASB constitute terminating action for Bell ASB 412-15-164.

Lastly, we reviewed Bell Service Instruction for Inverter Retrofit Kit BHT-412-SI-93, dated February 15, 2016, which provides instructions for installing retrofit kit P/N 412-704-058-103.

Proposed AD Requirements

The proposed AD would require, within 25 hours time-in-service (TIS), replacing the inverter with inverter P/N 412-375-079-105 and, for some helicopters, installing retrofit kit P/N 412-704-058-103.

After accomplishing the previous actions, the proposed AD would allow removing the placard and Rotorcraft Flight Manual limitations that prohibit night operations and restrict flights to visual flight rules.

After the effective date of this AD, this proposed AD would prohibit installing an inverter P/N 412-375-079-101 or 412-375-079-103 on any helicopter.

Differences Between this Proposed AD and the Service Information

Bell ASB 412-16-171 requires compliance no later than January 1, 2017, while this proposed AD would require compliance within 25 hours TIS. Bell ASB 412-16-171 makes an electrical load analysis a determining factor for corrective actions. This proposed AD would make no such requirement. Bell ASB 412-16-171 provides instructions for helicopters with serial numbers 36649, 36658, 36659, 36673, 36681 through 36684, 36686, 36688, 36690, 36692, 36694, and 36696 through 36704, and this proposed AD would not. Bell has notified us of errors in the S/Ns listed for Part B of ASB 412-16-171. Accordingly, this proposed AD would only be applicable to those serial-numbered helicopters subject to the unsafe condition.

Costs of Compliance

We estimate that this proposed AD would affect 73 helicopters of U.S. Registry and that labor costs average \$85 per work-hour. Based on these estimates, we expect that installing a new inverter or retrofit kit would require about 3 work-hours and a parts cost of \$15,749, for a total cost of \$16,004 per helicopter and \$1,168,292 for the U.S. fleet.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by

prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2015-04-04, Amendment 39-18106 (80 FR 9594, February 24, 2015), and adding the following new AD:

Bell Helicopter Textron Inc.: Docket No. FAA-2017-0052; Product Identifier 2016-SW-081-AD.

(a) Applicability

This AD applies to Model 412 and 412EP helicopters with a serial number (S/N) 33001 through 33213, 34001 through 34036, 36001 through 36648, 36650 through 36657, 36660 through 36672, 36674 through 36680, 36685, 36687, 36689, 36691, 36693, 36695, and 37002 through 37012, certificated in any category, with a static inverter (inverter) part number (P/N) 412-375-079-101 or 412-375-079-103 installed.

(b) Unsafe Condition

This AD defines the unsafe condition as the failure of an inverter under instrument meteorological conditions or night flight. This condition could result in smoke in the cockpit, increased pilot workload due to the loss of primary flight and navigation

displays, alternating current powered engine and transmission indicators, and autopilot, and subsequent loss of control of the helicopter.

(c) Affected ADs

This AD replaces AD 2015-04-04, Amendment 39-18106 (80 FR 9594, February 24, 2015).

(d) Comments Due Date

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(e) Compliance

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

(f) Required Actions

(1) Within 25 hours time-in-service:

(i) For helicopters with a S/N 33001 through 33213, 34001 through 34036, and 36001 through 36086, replace the inverter with inverter P/N 412-375-079-105.

(ii) For helicopters with a S/N 36087 through 36648, 36650 through 36657, 36660 through 36672, 36674 through 36680, 36685, 36687, 36689, 36691, 36693, 36695, and 37002 through 37012, install retrofit kit P/N 412-704-058-103 and replace the inverter with inverter P/N 412-375-079-105.

(2) After accomplishing the actions required by paragraph (f)(1) of this AD, you may remove the placard and Rotorcraft Flight Manual limitations, required by AD 2015-04-04, prohibiting night operations and restricting flights to visual flight rules.

(3) After the effective date of this AD, do not install an inverter P/N 412-375-079-101 or 412-375-079-103 on any helicopter.

(g) Alternative Methods of Compliance (AMOCs)

(1) The Manager, DSCO, FAA, may approve AMOCs for this AD. Send your proposal to: Tim Beauregard, Aviation Safety Engineer, DSCO Branch, AIR-7J0, FAA, 10101 Hillwood Pkwy, Fort Worth, TX 76177; telephone 817-222-5190; email 9-ASW-190-COS@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

(h) Additional Information

Bell Alert Service Bulletin 412-15-164, dated March 13, 2015, and Bell Alert Service Bulletin 412-16-171, dated March 22, 2016, which are not incorporated by reference, contain additional information about the subject of this AD. For service information identified in this AD, contact Bell Helicopter Textron, Inc., P.O. Box 482, Fort Worth, TX 76101; telephone (817) 280-3391; fax (817) 280-6466; or at <http://www.bellcustomer.com/files/>. You may review this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177.

(i) Subject

Joint Aircraft Service Component (JASC) Code: 2422, AC Inverter.

Issued in Fort Worth, Texas, on June 19, 2018.

Scott A. Horn,

Deputy Director for Regulatory Operations,
Compliance and Airworthiness Division,
Aircraft Certification Service.

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